

LISTING OF CLAIMS

1. (original) A compound selected from those of formula (I):

$$R^{2} \qquad \qquad (CH_{2})_{n} \qquad (I)$$

wherein:

• n is 1, 2 or 3,

- Z represents sulphur or oxygen,
- R and R", which may be identical or different, each represents hydrogen or linear or branched (C₁-C₆)alkyl,
- and R' represents linear or branched (C₁-C₆)alkyl, linear or branched

 (C_2-C_6) alkenyl, linear or branched (C_2-C_6) alkynyl, (C_3-C_8) cycloalkyl,

 (C_3-C_8) cycloalkyl (C_1-C_6) alkyl in which the alkyl moiety is linear or branched, aryl, aryl- (C_1-C_6) alkyl in which the alkyl moiety is linear or branched, heteroaryl or heteroaryl (C_1-C_6) alkyl in which the alkyl moiety is linear or branched,

◆ X represents nitrogen or N-R¹ wherein R¹ represents hydrogen or linear or branched (C₁-C₀)alkyl, (C₃-C₀)cycloalkyl, (C₃-C₀)cycloalkyl-(C₁-C₀)alkyl in which the alkyl moiety is linear or branched, aryl, aroyl, aryl-(C₁-C₀)alkyl in which the alkyl moiety is linear or branched,

heteroaryl, heteroaryl or heteroaryl-(C₁-C₆)alkyl in which the alkyl moiety is linear or branched,

◆ R² represents linear or branched (C₁-C₆)alkoxy, (C₃-C₈)cycloalkyloxy or (C₃-C₈)cycloalkyl-(C₁-C₆)alkyloxy in which the alkyloxy moiety is linear or branched,

• the representation denotes that the bond is single or double, with the proviso that the valency of the atoms is respected,

its enantiomers and diastereoisomers, and addition salts thereof with a pharmaceutically acceptable acid or base,

it being understood that:

- "aryl" may be "phenyl" or "naphthyl", each of those groups being optionally substituted by from one to three identical or different groups selected from linear or branched (C_1-C_6) alkyl, linear or branched (C_1-C_6) alkoxy, OH, COOH, alkoxycarbonyl in which the alkoxy moiety is linear or branched, formyl, nitro, cyano, hydroxymethyl, amino (optionally substituted by one or two linear or branched (C_1-C_6) alkyl) and halogen,

- "heteroaryl" may be any mono- or bi-cyclic group that contains from 5 to 10 ring members and may contain from 1 to 3 hetero atoms selected from oxygen, sulphur and nitrogen, each of those groups being optionally partially hydrogenated and optionally substituted by from one to three identical or different groups selected from linear or branched (C₁-C₆)alkyl, linear or branched (C₁-C₆)alkoxy, OH, COOH, alkoxycarbonyl in which the alkoxy moiety is linear or branched, formyl, nitro, cyano, amino (optionally substituted by one or two linear or branched (C₁-C₆)alkyl), hydroxymethyl and halogen.

- 2. (original) A compound of claim 1 wherein n is 2 and A represents -NHCOR'.
- 3. (original) A compound of claim 1 wherein n is 3 and A represents CONHR'.
- 4. (original) A compound of claim 1 wherein R² represents methoxy.
- 5. (original) A compound of claim 1 wherein X represents nitrogen.
- 6. (original) A compound of claim 1 wherein X represents NPh or NBz.
- 7. (original) A compound of claim 1 which is N-[2-(6-methoxy-4-isoquinolinyl)ethyl]acetamide, and its addition salts with a pharmaceutically acceptable acid.
- 8. (original) A compound of claim 1 which is N-[2-(6-methoxy-4-isoquinolinyl)ethyl]butanamide, and its addition salts with a pharmaceutically acceptable acid.
- 9. (original) A compound of claim 1 which is N-[2-(6-methoxy-4-isoquinolinyl)ethyl]propanamide, and its addition salts with a pharmaceutically acceptable acid.
- 10. (original) A compound of claim 1 which is N-[2-(6-methoxy-4-isoquinolinyl)ethyl]cyclopropanecarboxamide, and its addition salts with a pharmaceutically acceptable acid.
- 11. (original) A compound of claim 1 which is 4-(6-methoxy-4-isoquinolinyl)-*N*-methylbutanamide, and its addition salts with a pharmaceutically acceptable acid.

12. (original) A compound of claim 1 which is N-[2-(6-methoxy-2-phenyl-1,2,3,4-tetrahydro-4-isoquinolinyl)ethyl]acetamide, and its addition salts with a pharmaceutically acceptable acid.

13. (original) A compound of claim 1 which is N-[2-(2-benzyl-6-methoxy-1,2,3,4-tetrahydro-4-isoquinolinyl)ethyl]acetamide, and its addition salts with a pharmaceutically acceptable acid.

14. (original) A compound of claim 1 which is N-{2-[2-(cyclopropylmethyl)-6-methoxy-1,2,3,4-tetrahydro-4-isoquinolinyl]ethyl} acetamide, and its addition salts with a pharmaceutically acceptable acid.

15. (currently amended) A pharmaceutical composition useful for treating melatoninergic disorders comprising as active principle an effective amount of a compound of claim 1 together with one or more pharmaceutically acceptable excipients or vehicles.

16. (canceled)

17. (original) A method for treating a living animal body afflicted with disorders of the melatoninergic system comprising the step of administering to the animal body an amount of a compound of claim 1 which is effective for alleviation of said disorder.

18. (original) A method for treating a living animal body afflicted with a condition selected from sleep disorders, stress, anxiety, seasonal affective disorders, severe depression, cardiovascular pathologies, pathologies of the digestive system, insomnia and fatigue due to jetlag, schizophrenia, panic attacks, melancholia, appetite disorders, obesity, insomnia, psychotic disorders, epilepsy, diabetes, Parkinson's disease, senile dementia, various disorders associated with normal or pathological ageing, migraine, memory loss, Alzheimer's disease, cerebral

circulation disorders, sexual dysfunction, as ovulation inhibitors, immunomodulators, and cancer comprising the step of administering to the animal body an amount of a compound of claim 1 which is effective for alleviation of said condition.

- 19. (original) A method for treating a living animal body afflicted with a condition treatable by an ovulation inhibitor comprising the step of administering to the animal body an amount of a compound of claim 1 which is effective for alleviation of said condition.
- 20. (original) A method for treating a living animal body afflicted with a condition treatable by an immunomodulator comprising the step of administering to the animal body an amount of a compound of claim 1 which is effective for alleviation of said condition.